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10/589,112	08/07/2007	Michel Jouve	034299-000708	5852

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EXAMINER	
BALDRIDGE, BENJAMIN M	
ART UNIT	PAPER NUMBER
4158	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,112	JOUVE ET AL.	
	Examiner	Art Unit	
	BENJAMIN M. BALDRIDGE	4158	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 7* is/are rejected.

7)☒ Claim(s) *8 - 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6 March 2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 10 are presented for examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

3. Claims 8 - 10 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, claims 8 – 10 have not been further treated on the merits.

4. The disclosure is objected to because of the following informalities:

Page 11, line 22: Figure 4 shows a waveform, not a diagram of a signal processing channel.

For the purposes of examination, it is assumed that Figure 3 is the proper reference, as it shows a diagram of a signal processing channel.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Warburton et al. (US Patent 5,873,054, February 16, 1999, hereinafter referred to as Warburton 054).

7. Warburton 054 discloses a method and apparatus for a combinatorial logic signal processor in a digitally based high speed X-ray spectrometer having:

Digital data detection means corresponding to detected pulses [claim 1] (Abstract, lines 1 - 5);

Amplitude measurement means to associate a measured amplitude with a detected pulse [claim 1] (Column 20, lines 44 - 48);

Pulse rejection means use detected digital data to reject every pulse with a width that exceeds a pulse width threshold [claim 1] (Column 21, lines 40 – 44, 54 - 57);

And any new pulse during a programmed time interval, if a first pulse has been detected during the programmed time interval [claim 1] (Column 2, lines 32 - 38; Column 5, lines 48 - 54, 58 - 62; this function is performed by the "pile up inspector" described in Column 5 of the reference).

Means for excluding pulses exclude pulses for which the measured amplitude is less than an amplitude threshold value [claim 5] (Column 5, lines 39 - 42);

At least one input amplifier amplifies detected analogue pulses [claim 6] (Figure 2, item 20; Column 9, line 37);

At least one analogue/digital converter converts the detected analogue pulses into said digital data [claim 6] (Figure 2, item 24; Column 9, lines 41 - 42).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warburton 054 as applied to claim 1 above, and further in view of Westphal (US Patent 4,476,384, October 9, 1984, hereinafter referred to as Westphal).

10. Although Warburton 054 discloses substantial features of the claimed invention, Warburton 054 fails to disclose an apparatus having:

Calibration means include a histogram memory;

To sort digital data corresponding to the detected pulses that were not rejected by the pulse rejection means, by calibration energy range when the detected pulses originate from a standard source.

Nonetheless, these features are well known in the art, and would have been an obvious modification of the method and apparatus disclosed by Warburton 054, as evidenced by Westphal. Westphal discloses a method and apparatus for determining a spectrum of radiation characteristics with full counting loss compensation having:

Calibration means include a histogram memory (Abstract, lines 9 - 15); the "memory cell" claimed by Westphal is identical in function to a histogram memory, and is used to store pulse data;

To sort digital data corresponding to the detected pulses that were not rejected by the pulse rejection means, by calibration energy range when the detected pulses originate from a standard source (Figure 1, items 30, 203; Column 6, lines 2 – 7; Column 3, lines 6 – 9; Column 3, lines 22 – 24) in order to use test pulses to calibrate amplitude measurements (and therefore measurement of energy content of the pulses). Given the teaching of Westphal, a person of ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Warburton 054 by employing the well known features of calibration means, histogram memory, and calibration energy range, as disclosed by Westphal, in order to calibrate a spectrometry sensor, and for the purposes discussed above.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warburton 054 in view of Westphal, as applied to claim 2 above, and further in view of Arya et al. (US Patent 4,229,654, October 21, 1980, hereinafter referred to as Arya).

12. Warburton 054 in view of Westphal discloses substantial features of the claimed invention. Specifically, Warburton in view of Westphal discloses:

Count means count firstly all detected pulses and secondly detected pulses that were not rejected by the pulse rejection means, by detection energy range (Westphal, Column 2, lines 47 - 50; Figure 1, items 14 - 18; Figure 3, items 20, 30, 50, 60; Figure 5, item 70).

Although Warburton 054 in view of Westphal discloses substantial features of the claimed invention, Warburton 054 in view of Westphal fails to disclose an apparatus having:

Sort means sort firstly all detected pulses and secondly detected pulses that were not rejected by the pulse rejection means, by detection energy range. Nonetheless, these features are well known in the art, and would have been an obvious modification of the method and apparatus disclosed by Warburton 054 in view of Westphal, as evidenced by Arya. In an analogous art, Arya discloses a method and apparatus for determining the amount of fissile material in a sample by detecting pulses from gamma ray emissions having:

Sort means sort firstly all detected pulses and secondly detected pulses that were not rejected by the pulse rejection means, by detection energy range (Column 2, lines 40 – 42; Column 3, lines 39 -42) in order to measure the pulse amplitudes. Given the teaching of Arya, a person of ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Warburton 054 in view of Westphal by employing the well known features of pulse sorting means, as disclosed by Arya, in order to classify detected pulses by energy range, and for the purposes discussed above.

13. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warburton 054 as applied to claim 1 above, and further in view of Warburton et al. (US Patent 6,590,957 B1, July 8, 2003, hereinafter referred to as Warburton 957).

14. Warburton 054 discloses substantial features of the claimed invention, namely:

Data output from the analogue/digital converter [claim 7] (Figure 2, item 24 – note connection to bus buffers).

Although Warburton 054 discloses substantial features of the claimed invention, Warburton 054 fails to disclose an apparatus having:

At least one circular memory stores digital data at a configurable rate [claim 4];

The circular memory [claim 7].

Nonetheless, these features are well known in the art, and would have been an obvious modification of the method and apparatus disclosed by Warburton 054, as evidenced by Warburton 957. Warburton 957 discloses a method and apparatus for producing spectra corrected for deadtime losses having:

At least one circular memory stores digital data at a configurable rate [claim 4] (Column 7, lines 55 - 60) in order to maintain accurate pulse amplitude measurement;

The circular memory [claim 7] (Column 7, lines 55 – 60).

Given the teaching of Warburton 957, a person of ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Warburton 054 by employing the well known features of circular memory and data outputs from analog to digital converters, as disclosed by Warburton 957, in order to accurately measure pulse amplitudes, and for the purposes discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN M. BALDRIDGE whose telephone number is (571)270-1476. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571 272 2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Benjamin M Baldridge/

Examiner, Art Unit 4158

/Walter Benson/
Supervisory Patent Examiner, Art Unit 4158

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